

Results: The results revealed a high prevalence of cognitive and psychiatric issues within the study population. A case by case analysis revealed a number of key scenarios affecting patient referral. As a result four referral categories were defined: Reassess (by a neurosurgeon) 6 months post-trauma, refer to neuropsychology immediately, refer to psychiatry immediately or no further action required from the neuropsychological/psychiatric departments. An algorithm was then designed to aid TBI patient referral into these categories in the Neurosurgical Outpatient setting.

Conclusion: In conclusion this study highlights the need for such a tool, to enable a number of beneficial improvements to be made to the appropriate follow up and referral of Neurosurgical TBI Outpatients, and thereby reduce premature and/or inappropriate referrals to specialists.

THE IMPACT OF MAJOR TRAUMA CENTRE (MTC) STATUS ON PAEDIATRIC ORTHOPAEDIC SERVICE DELIVERY – 1 YEAR AFTER MTC STATUS DESIGNATION.

Assad Farooq, Ravindran Visagan, Yaser Jabber, Raj Bhattacharya, Sally Tennant, David Hunt

Aims: St. Mary's Hospital, Paddington was designated a Major Trauma Centre (MTC) in January 2011 to centralise the delivery of trauma services and to streamline patient care in London. The design and commissioning of the MTC has an inherent focus on adult trauma with less consideration for paediatric trauma demands. Research suggests that orthopaedic trauma patients are managed more effectively in units where there are well-organised, efficient and experienced teams.

We have assessed the impact of MTC status on the paediatric orthopaedic trauma workload and the case-mix in the year preceding and the immediate year following MTC status. We also examined the effectiveness of a MTC in providing a centralised model of paediatric orthopaedic trauma care and the institutional preparedness of St. Mary's before and after MTC status.

Methods: A retrospective service evaluation of paediatric orthopaedic trauma admissions between January 2010 to December 2011 looking at the total number of admissions; lengths-of-stay; proportions requiring surgery and the case-mix.

Results: Total number of admissions doubled, with the number of admissions requiring surgery also doubling.

The total number of hospital days doubled, with the number of hospital days for patients requiring conservative management more than doubling. The overall length of stay (LOS) increased by 1 day.

The number of poly-trauma patients increased threefold.

Conclusions: MTC status has had a tremendous effect on the paediatric orthopaedic trauma workload. Policy makers and managers need to pay attention to this demand forecast in order to make realistic preparations when applying for a MTC designation.

THE ROLE OF CD248 IN ANGIOGENESIS IN SKELETAL MUSCLE

William Maynard, A. Naylor, S. Egginton, C.D. Buckley

Angiogenesis is crucial to the pathology of chronic inflammatory diseases. CD248 (also known as endosialin or TEM1) is a type 1 membrane protein involved in angiogenic processes through its expression on pericytes and its role in downstream PDGFR α signalling. This project looked at the role of CD248 in murine skeletal muscle, a strong model for studying physiological angiogenesis due to the organised nature of muscle capillaries and their rapid angiogenic responses to stimuli. The two main forms of vessel growth; splitting and sprouting, were induced in muscle separately by increasing microvascular shear stress through Prazosin Hydrochloride administration and by causing muscle overload of the Extensor Digitorum Longus through surgical removal of the Tibialis Anterior respectively. Angiogenesis was quantified by assessing the capillary: fibre ratio (C:F) of transverse muscle sections. This study showed that CD248 is present on perivascular cells and that CD248 knockout (CD248 $^{-/-}$) mice have a specific sprouting defect. Following surgical treatment WT mice had a significantly increased C:F of 1.37 \pm 0.07 ($p=0.017$) compared to WT control C:F of 1.16 \pm 0.09. Treated CD248 $^{-/-}$ mice had a C:F of 1.17 \pm 0.08 which was not significantly different to CD248 $^{-/-}$ control C:F 1.17 \pm 0.07 ($p=0.94$). This defect was replicated in WT mice given the tyrosine kinase inhibitor Imatinib Mesylate to block PDGFR α signalling, suggesting that CD248 is required for PDGFR α -dependant sprouting. This study describes a new role for CD248 in angiogenesis and long term inhibition of sprouting in

skeletal muscle will be an important consideration when developing anti-CD248 therapies.

MUSCULOSKELETAL REGENERATION USING MESENCHYMAL STEM CELLS: AN IMMINENT CLINICAL REALITY?

Rayna Patel

Background: Mesenchymal stem cells (MSCs), residing within most connective tissues, exhibit significant plasticity in both normal development and tissue repair. The past decade has seen rapidly increasing recognition of the enormous potential of MSC implantation in regeneration of the musculoskeletal system.

Methods: We present a systematic review of the literature, performed using the Medline/Pubmed and Embase databases, to expound the current position of this relatively novel area of orthopaedic research and the hurdles that remain in its translation to clinical practice.

Results: Over the past decade, the ability of MSCs to repair bone has been repeatedly demonstrated in animal models with promising results and a reasonable safety profile. Despite the wealth of scientific research being undertaken, translation to a hospital setting remains an on-going effort. Several significant barriers remain in preventing clinical use of MSCs, including the sources of MSC derivation, the conditions and quantities required for effective repair and optimisation of scaffolds and pharmacological adjuncts. Moreover, the significant issue of governance of such novel techniques encompasses legal and financial, as well as clinical, considerations.

Nevertheless, a variety of regenerative techniques using MSCs have demonstrated encouraging results, from arthritides to spinal fusion to bone tumours.

Conclusion: The expanding array of MSC-based therapies and their initial safety and efficacy profiles undoubtedly merit further attention. Further development of the techniques used to administer MSCs and improved cost-effectiveness might soon deliver favourable comparisons with current standard treatment and a place for their use in regular clinical practice.

MESENTERIC NEURILEMMOMA: A CASE STUDY

Kerry Anne Burke, M.D. Amin, L.F. Alvarez, K. Thirupathy, S.J. Snooks

Aim: Mesenteric neurilemmomas are extremely rare, slow-growing tumours of the peripheral nerve sheath and only seven cases have previously been recorded in the UK. This work presents a patient who underwent surgical resection of a large schwannoma in the transverse mesocolon.

Method: With the patient's consent, his case notes were analysed.

Results: This 64 year old gentleman presented with non-specific abdominal pain and an epigastric mass. Ultrasound sonography and computed tomography imaging revealed a heterogeneous mass in the transverse mesocolon and a core biopsy suggested a neurofibroma. Surgical excision discovered an irregular, highly vascular lesion weighing 529 grams, with a very thin fibrous connective tissue capsule. Microscopy demonstrated intertwining bundles of elongated spindle cells with abundant eosinophilic cytoplasm, and immunohistochemistry confirmed the diagnosis of a schwannoma. There were no post-operative complications and the patient was discharged on the eighth day of recovery.

Conclusion: Large mesenteric neurilemmomas are extremely rare and are commonly mistaken for malignancies. Clinical signs and symptoms may be non-specific or even absent, and they are difficult to diagnose with cross-sectional imaging and core biopsies. Surgical resection of the neoplasm and subsequent histopathology combined with immunohistochemistry can definitively diagnose neurilemmomas, and complete excision is curative.

THE LEARNING CURVE: HOW MANY LAPAROSCOPIC INGUINAL HERNIA REPAIR CASES WOULD SURGICAL TRAINEES BE EXPECTED TO ACHIEVE BEFORE THEY BECOME FULLY COMPETENT IN THIS PROCEDURE?

Yan Mei Goh, J. Amin, G. Denys

Aims: To assess the number of laparoscopic inguinal hernia repair cases required in order to achieve a reduction in complication rates and an improvement in patient satisfaction rates in Inverclyde Royal Hospital.

Methods: A total of 162 patients who have had a primary repair of an inguinal hernia carried out by two surgeons between 1st January 2005 and